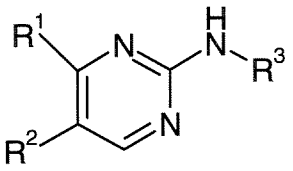
AMENDMENTS TO THE CLAIMS

Please amend claim 22 as indicated below and cancel claim 21 without prejudice or disclaimer. Deletions appear in ~~strikethrough font~~ and additions are underlined. The following listing of claims will replace all prior versions and listings of claims in the application:

Complete listing of claims

1. (Previously presented) A compound of formula (I)



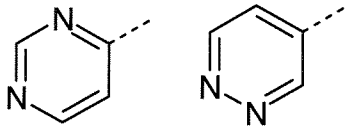
(I)

wherein

R^{1} represents a monocyclic or polycyclic, aryl or heteroaryl group optionally substituted by one, two or three substituents chosen from halogen atoms, straight or branched, optionally substituted lower alkyl, hydroxy, straight or branched, optionally substituted lower alkoxy, -SH, straight or branched optionally substituted lower alkylthio, nitro, cyano, –NR'R", -CO_2R', -C(O)-NR'R", -N(R"')C(O)-R', and -N(R"')-C(O)NR'R",

wherein R', R" and R"' each independently represents a hydrogen atom or a straight or branched, optionally substituted lower alkyl group; or R' and R" together with the atom to which they are attached form a cyclic group;

R^2 represents a monocyclic N-containing heteroaryl group chosen from the groups of formulae (IIa) and (IIb):



(IIa) (IIb)

wherein the groups of formula (IIa) and (IIb) are each independently optionally substituted by one, two or three substituents chosen from halogen atoms, straight or branched, optionally substituted lower alkyl, hydroxy, straight or branched, optionally substituted lower alkoxy, -SH, straight or branched optionally substituted lower alkylthio, nitro, cyano, –NR'R", $-CO_2R'$, -C(O)-NR'R", -N(R"')C(O)-R', and -N(R"')-C(O)NR'R",

wherein R', R" and R"' each independently represents a hydrogen atom or a straight or branched, optionally substituted lower alkyl group; or R' and R" together with the atom to which they are attached form a cyclic group.

R^3 represents a monocyclic or polycyclic, heteroaryl group being optionally substituted by one, two or three substituents chosen from halogen atoms, straight or branched, optionally substituted lower alkyl, hydroxy, oxo, straight or branched, optionally substituted lower alkoxy, -SH, straight or branched optionally substituted lower alkylthio, nitro, cyano, –NR'R", $-CO_2R'$, -C(O)-NR'R", -N(R"')C(O)-R', and -N(R"')-C(O)NR'R",

wherein R', R" and R"' each independently represents a hydrogen atom or a straight or branched, optionally substituted lower alkyl group; or R' and R" together with the atom to which they are attached form a cyclic group;

or an N-oxide thereof or a pharmaceutically acceptable salt thereof.

2. (Previously presented) A compound according to claim 1, wherein R^3 represents either

a monocyclic or polycyclic heteroaryl group comprising a nitrogen-containing six-membered ring; or

a monocyclic five-membered heteroaryl group not containing nitrogen in the ring structure,

wherein each heteroaryl group is independently optionally substituted by one, two or three substituents chosen from halogen atoms, straight or branched, optionally substituted lower alkyl, hydroxy, oxo, straight or branched, optionally substituted lower alkoxy, -SH, straight or branched optionally substituted lower alkylthio, nitro, cyano, –NR'R", $-CO_2R'$, -C(O)-NR'R", -N(R"')C(O)-R', and -N(R"')-C(O)NR'R",

wherein R', R" and R"' each independently represents a hydrogen atom or a straight or branched, optionally substituted lower alkyl group; or R' and R" together with the atom to which they are attached form a cyclic group.

3. (Previously presented) A compound according to claim 2, wherein R^3 represents a monocyclic or polycyclic heteroaryl group comprising a nitrogen-containing six-membered ring,

wherein the heteroaryl group is optionally substituted by one, two or three substituents chosen from halogen atoms, straight or branched, optionally substituted lower alkyl, hydroxy, oxo, straight or branched, optionally substituted lower alkoxy, -SH, straight or branched optionally substituted lower alkylthio, nitro, cyano, –NR'R", $-CO_2R'$, -C(O)-NR'R", -N(R"')C(O)-R', and -N(R"')-C(O)NR'R",

wherein R', R" and R"' each independently represents a hydrogen atom or a straight or branched, optionally substituted lower alkyl group; or R' and R" together with the atom to which they are attached form a cyclic group.

4. (Previously presented) A compound according to claim 1, wherein R^3 is chosen from pyridine, pyrimidine, pyridazine, isoquinoline, quinoline, naphthyridine, pyridine-2(1H)-one, furan and thiophene; each of them optionally substituted by one, two or three substituents chosen from halogen atoms, straight or branched, optionally substituted lower alkyl, hydroxy, oxo, straight or branched, optionally substituted lower alkoxy, -SH, straight or branched optionally substituted lower alkylthio, nitro, cyano, –NR'R", $-CO_2R'$, -C(O)-NR'R", -N(R"')C(O)-R', and -N(R"')-C(O)NR'R",

wherein R', R" and R"' each independently represents a hydrogen atom or a straight or branched, optionally substituted lower alkyl group; or R' and R" together with the atom to which they are attached form a cyclic group.

5. (Previously presented) A compound according to claim 4, wherein R^3 is chosen from pyridine and pyridine-2(1H)-one, each of them optionally substituted by one, two or three substituents chosen from halogen atoms, straight or branched,

optionally substituted lower alkyl, hydroxy, oxo, straight or branched, optionally substituted lower alkoxy, -SH, straight or branched optionally substituted lower alkylthio, nitro, cyano, –NR'R", $-CO_2R'$, -C(O)-NR'R", -N(R"')C(O)-R', and -N(R"')-C(O)NR'R",

wherein R', R" and R"' each independently represents a hydrogen atom or a straight or branched, optionally substituted lower alkyl group; or R' and R" together with the atom to which they are attached form a cyclic group.

6. (Previously presented) A compound according to claim 1, wherein R^3 is chosen from pyridine, pyrimidine, pyridazine, isoquinoline, quinoline, naphthyridine and pyridine-2(1H)-one, each of them optionally substituted by a substituent chosen from halogen atoms, straight or branched, optionally substituted lower alkyl, oxo, straight or branched, optionally substituted lower alkoxy, straight or branched optionally substituted lower alkylthio and cyano groups.

7. (Previously presented) A compound according to claim 1, wherein R^3 is chosen from pyridine and pyridine-2(1H)-one, each of them optionally substituted by a substituent chosen from halogen atoms, straight or branched, optionally substituted lower alkyl, oxo, straight or branched, optionally substituted lower alkoxy, straight or branched optionally substituted lower alkylthio and cyano groups.

8. (Previously presented) A compound according to claim 1, wherein R^1 represents a group chosen from phenyl, furan-2-yl, furan-3-yl, thien-2-yl, thien-3-yl, pyridin-2-yl, pyridin-3-yl and pyridin-4-yl, each of them optionally substituted by one, two or three substituents chosen from halogen atoms, straight or

branched, optionally substituted lower alkyl, hydroxy, straight or branched, optionally substituted lower alkoxy, -SH, straight or branched optionally substituted lower alkylthio, nitro, cyano, –NR'R", -CO_2R', -C(O)-NR'R", -N(R"')C(O)-R', -N(R"')-C(O)NR'R",

wherein R', R" and R"' each independently represents a hydrogen atom or a straight or branched, optionally substituted lower alkyl group; or R' and R" together with the atom to which they are attached form a cyclic group.

9. (Previously presented) A compound according to claim 8, wherein R^1 represents a group chosen from phenyl, furan-2-yl, furan-3-yl and thien-2-yl, each of them optionally substituted by an halogen atom.

10. (Previously presented) A compound according to claim 9, wherein R^1 represents a group chosen from unsubstituted furan-2-yl and unsubstituted thien-2-yl.

11. (Previously presented) A compound according to claim 1, wherein R^2 represents a pyrimidinyl or pyridazinyl group; wherein the pyrimidinyl or pyridazinyl group is optionally substituted by one, two or three substituents chosen from halogen atoms, straight or branched, optionally substituted lower alkyl, hydroxy, straight or branched, optionally substituted lower alkoxy, -SH, straight or branched optionally substituted lower alkylthio, nitro, cyano, –NR'R", -CO_2R', -C(O)-NR'R", -N(R"')C(O)-R', _N(R"')-C(O)NR'R",

wherein R', R" and R"' each independently represents a hydrogen atom or a straight or branched, optionally substituted lower alkyl group; or R' and R" together with the atom to which they are attached form a cyclic group.

12. (Previously presented) A compound according to claim 11, wherein R^2 represents a pyrimidinyl or pyridazinyl group; wherein the pyrimidinyl or pyridazinyl group is optionally substituted by a straight or branched, optionally substituted lower alkylthio group.

13. (Previously presented) A compound according to claim 12, wherein R^2 represents an unsubstituted pyrimidin-4-yl or an unsubstituted pyridazin-4-yl group.

14. (Previously presented) A compound according to claim 13, wherein R^1 represents a group chosen from unsubstituted furan-2-yl and unsubstiyuted thien-2-yl, R^2 represents an unsubstituted pyrimidin-4-yl or an unsubstituted pyridazin-4-yl and wherein R^3 is chosen from the group consisting of pyridine, pyrimidine, pyridazine, isoquinoline, quinoline, naphthyridine and pyridine-2(1H)-one, all of them optionally substituted by a substituent chosen from the group consisting of halogen atoms, straight or branched, optionally substituted lower alkyl, oxo, straight or branched, optionally substituted lower alkoxy, straight or branched optionally substituted lower alkylthio and cyano groups.

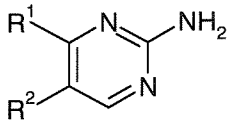
15. (Previously presented) A compound according to claim 1, chosen from:

- 4'-(2-furyl)-*N*-pyridin-3-yl-4,5'-bipyrimidin-2'-amine
- 4'-(2-furyl)-*N*-(6-methoxypyridin-3-yl)-4,5'-bipyrimidin-2'-amine
- 4'-(2-furyl)-*N*-pyridin-2-yl-4,5'-bipyrimidin-2'-amine
- *N*-(6-fluoropyridin-3-yl)-4'-(2-furyl)-4,5'-bipyrimidin-2'-amine
- 4'-(2-furyl)-*N*-(4-methylpyridin-3-yl)-4,5'-bipyrimidin-2'-amine
- *N*-pyridin-3-yl-4'-thien-2-yl-4,5'-bipyrimidin-2'-amine

- 4'-(3-fluorophenyl)-*N*-pyridin-3-yl-4,5'-bipyrimidin-2'-amine
- 4'-(3-fluorophenyl)-*N*-(6-methoxypyridin-3-yl)-4,5'-bipyrimidin-2'-amine
- 4'-(2-furyl)-*N*-(6-methoxypyridin-3-yl)-2-(methylthio)-4,5'-bipyrimidin-2'-amine
- 4'-(3-fluorophenyl)-2-(methylthio)-*N*-pyridin-3-yl-4,5'-bipyrimidin-2'-amine
- 4-(2-furyl)-5-pyridazin-4-yl-*N*-pyridin-3-ylpyrimidin-2-amine
- 4'-(2-furyl)-*N*-(1-oxidopyridin-3-yl)-4,5'-bipyrimidin-2'-amine
- 4'-(2-furyl)-*N*-pyrimidin-5-yl-4,5'-bipyrimidin-2'-amine
- 4'-(2-furyl)-*N*-(5-methoxypyridin-3-yl)-4,5'-bipyrimidin-2'-amine
- 4'-(2-furyl)-*N*-(6-methylpyridin-3-yl)-4,5'-bipyrimidin-2'-amine
- 4'-(2-furyl)-*N*-pyrazin-2-yl-4,5'-bipyrimidin-2'-amine
- 5-{[4'-(2-furyl)-4,5'-bipyrimidin-2'-yl]amino}nicotinonitrile
- 4'-(2-furyl)-*N*-(1-oxidopyrimidin-5-yl)-4,5'-bipyrimidin-2'-amine
- 4'-(2-furyl)-*N*-[2-(methylthio)pyrimidin-4-yl]-4,5'-bipyrimidin-2'-amine
- *N*-[6-(benzyloxy)pyridin-3-yl]-4'-(2-furyl)-4,5'-bipyrimidin-2'-amine
- 5-{[4'-(2-furyl)-4,5'-bipyrimidin-2'-yl]amino}pyridin-2(1*H*)-one
- 4'-(2-furyl)-*N*-1,6-naphthyridin-8-yl-4,5'-bipyrimidin-2'-amine
- 4'-(2-furyl)-*N*-isoquinolin-4-yl-4,5'-bipyrimidin-2'-amine
- 4'-(2-furyl)-*N*-quinolin-3-yl-4,5'-bipyrimidin-2'-amine
- 4'-(3-furyl)-*N*-pyridin-3-yl-4,5'-bipyrimidin-2'-amine
- 4'-(3-furyl)-*N*-pyrimidin-5-yl-4,5'-bipyrimidin-2'-amine
- *N*-pyrimidin-5-yl-4'-(2-thienyl)-4,5'-bipyrimidin-2'-amine

- *N*-(1-oxidopyridin-3-yl)-4'-(2-thienyl)-4,5'-bipyrimidin-2'-amine
- 5-pyridazin-4-yl-*N*-pyridin-3-yl-4-(2-thienyl)pyrimidin-2-amine; and
- 4-(2-furyl)-5-pyridazin-4-yl-N-pyrimidin-5-ylpyrimidin-2-amine.

16. (Previously presented) A process for producing a compound as claimed in claim 1, wherein a compound of formula (IX) is coupled with a compound of formula (III); wherein X is a halogen atom,



(IX)

(III)

and optionally converting the resulting compound into an N-oxide thereof or a pharmaceutically acceptable salt thereof.

17. (Cancelled)

18. (Previously presented) A pharmaceutical composition comprising a compound as claimed in claim 1 and a pharmaceutically acceptable diluent or carrier.

19. (Cancelled)

20. (Cancelled)

21. (Cancelled)

22. (Currently Amended) A method ~~according to claim 21~~ for treating a subject afflicted with a pathological condition or disease susceptible to amelioration by antagonism of the A_{2B} adenosine receptor, comprising administering to said subject an effective amount of a compound as claimed in claim 1,

wherein the pathological condition or disease is chosen from asthma, bronchoconstriction, allergic diseases, hypertension, ~~atherosclerosis,~~ reperfusion injury, myocardial ischemia, retinopathy, inflammation, ~~gastrointestinal tract disorders,~~ cell proliferation disorders, diabetes mellitus, and autoimmune diseases.

23. (Previously presented) A process according to claim 16, wherein the halogen atom is chosen from bromine, iodine and chlorine.